

## MMS ENVIRONMENTAL STUDIES PROGRAM: ONGOING STUDIES

**Region:** Alaska

**Planning Areas:** Beaufort Sea / Chukchi Sea

**Title:** Study of Sharing Networks to Assess the Vulnerabilities of Local Communities to Oil and Gas Development Impacts in Arctic Alaska (AK-05-04a)

**MMS Information Needs to be Addressed:** The information from this will be used for NEPA analysis and documentation for Beaufort Sea and Chukchi Sea Lease Sales and DPPs.

**Total Cost:** \$785,000

**Period of Performance:** FY 2007-2010

**Conducting Organization:** UAF, Resilience and Adaptation Program

**MMS Contact:** [Chief, Alaska Environmental Studies Section](#)

### **Description:**

***Background*** Many previous MMS studies have documented various aspects of subsistence harvest throughout Coastal Alaska. These studies have identified and hypothesized patterns of change within subsistence-oriented behaviors that occur in association with local changes in income level, demographics, access to resources, and wildlife population/habitat change. Subsistence issues always dominate the public testimonial record, amply demonstrating the continued importance of food harvest, distribution, and consumption to coastal communities and the persistence of their concern over potential cumulative impacts from oil and gas development on social and cultural continuity.

Over the years, MMS has produced a wealth of information about household subsistence harvests by quantity, location, species, and month of harvest. But our research has not yet explored systematically the equally important latter half of the subsistence process: the complex social dynamics of sharing and consuming resources after they are harvested. In Native communities, the distribution and exchange of subsistence resources have traditionally operated under complex codes of participation, partnership, and obligation. It is thus plausible that incremental changes in subsistence activities could have corresponding social system effects. This study seeks to identify key nodes and thresholds in community food distribution networks to assess their vulnerabilities and resiliency to change.

***Objectives*** This study will:

1. Explore, quantify, and document the social dynamics and significant changes of subsistence resource distribution and consumption for residents of selected coastal communities of the Beaufort Sea and Chukchi Sea.
2. Quantify (through baseline and trend data) and explain (through ethnographic fieldwork) any identifiable changes in the social distribution of subsistence resources over time and geographic space.

3. Evaluate from the empirical research the need for further research by assessing whether any documented changes in subsistence activities might feasibly produce substantial changes in the dietary behaviors and health status of identifiable Native groups (such as elders, single women, children, adolescent males, unskilled hunters, etc.).

### Methods

1. Conduct a literature search on the social dynamics of distributing and consuming subsistence resources in the Arctic region of Alaska; Identify what has been documented to date.
2. Evaluate the utility of building upon previous data sets to establish the needed statistical validity and power to establish adequate baseline and trend data for this study.
3. Prepare a strategic survey instrument that is both statistically and socially appropriate, and obtain OMB approval to use it.
4. Coordinate with local communities and appropriately conduct the surveys where feasible.
5. Conduct supplementary ethnographic fieldwork to secure the reliability of collected survey data and to obtain the “emic” perspective necessary to interpret and explain survey results.
6. Assess the field data and estimate confidence in / significance of changes in distribution or consumption of subsistence resources.
7. Explain any documented changes by reference to fieldwork and published literature.
8. Conduct post-fieldwork meetings with appropriate individuals in surveyed communities to cross-check and review fieldwork results.
9. For statistically significant observed relationships, assess the plausibility of linkages between a) regional changes in subsistence and oil development activities and b) changing dynamics in the social distribution and consumption of subsistence resources; assess the need for further research to explore any implications for changing dietary behaviors and health status for identifiable members of coastal communities.
10. Report the results to participating communities through public meetings or workshops.

### **Current Status:**

This study was recently initiated as a MMS-UAF cooperative agreement through the Cooperative Ecosystem Studies Unit consortium.

**Final Report Due:** January 2010

**Publications Completed:** None

**Affiliated WWW Sites:** <http://www.mms.gov/alaska/>

**Revised Date:** March 2008